

REMARKS

The present Amendment amends claims 1, 2, 4-10, 12 and 13, leaves claim 11 unchanged and cancels claim 3. Therefore, the present application has pending claims 1, 2 and 4-13.

Claims 1-13 stand rejected under 35 USC §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regards as their invention. As indicated above, claim 3 was canceled. Therefore, this rejection with respect to claim 3 is rendered moot. Various amendments were made throughout the remaining claims 1, 2 and 4-13 to bring them into conformity with the requirements of 35 USC §112, second paragraph. Therefore, this rejection with respect to claims 1, 2 and 4-13 is overcome and should be withdrawn.

Specifically, amendments were made throughout claims 1, 2 and 4-13 to overcome the objections noted by the Examiner in the Office Action.

Claims 1-13 stand rejected under 35 USC §103(a) as being unpatentable over Ramasubramani (U.S. Patent No. 6,509,589) in view of Ryu (U.S. Patent No. 6,775,291). As indicated above, claim 3 was canceled. Therefore, this rejection with respect to claim 3 is rendered moot.

It should be noted that the cancellation of claim 3 was not intended nor should it be considered as an agreement on Applicants part that the features recited in claim 3 are taught or suggested by Ramasubramani or Ryu. The cancellation of claim 3 was simply intended to expedite prosecution of the present application.

This rejection with respect to the remaining claims 1, 2 and 4-13 is traversed for the following reasons. Applicants submit that the features of the

present invention as now more clearly recited in claims 1, 2 and 4-13 are not taught or suggested by Ramasubramani or Ryu whether taken individually or in combination with any of the other references of record. Therefore, Applicants respectfully request the Examiner to reconsider and withdraw this rejection.

Amendments were made to the claims so as to clarify that the present invention is directed to an information providing method on a communication network including a server for providing a service, a gateway apparatus and mobile packet communication network accommodating a mobile terminal and including a service management node for managing management information of the service to be provided to the mobile terminal in the mobile packet communication network such that the gateway apparatus is capable of communicating with the mobile terminal, the server and the service management node. The present invention is also directed to the features of the gateway apparatus.

According to the present invention as now recited in the claims, a server for providing a service to mobile terminals can transmit packets including service information to a gateway. The gateway can selectively distribute the received packets to mobile terminals by converting the destination address of each of the received packets into an address of the mobile terminal with reference to a management table. In the management table the address of each mobile terminal (having been authorized to receive the packet) was registered when the mobile terminal was connected to a mobile packet communication network or the location of the mobile terminal was registered in the mobile packet communication network, as management

information on the mobile terminal together with a service identifier of service to be provided to the mobile terminal.

In a case where the server transmits a packet using an IPv6 address as its destination address, according to the present invention, the gateway can convert the destination address into an IPv4 address if the management table includes the IPv4 address as a part of management information on the mobile terminal. When a plurality of mobile terminal addresses are registered in the management table in correspondence with the same service identifier, for example, the gateway can distribute the packet received from the server to a plurality of mobile terminals by copying the packet and converting its destination address into each of mobile terminal addresses registered in the management table.

Further, according to the present invention, since the management table can include various terminal attribute information, for example, the gateway can transfer the packet received from the server to a specified mobile terminal or a group of specified mobile terminals by selecting them with filtering condition and management information or by selecting them with delivery area information of the received packet and location information of each mobile terminal, as recited in the claims.

It should be noted that the gateway of the present invention registers management information on a mobile terminal into the "management table" in response to reception of a request from a "service management node" such as a contractor management node 4 for storing contractor information, mobile terminal location, and identifier of service to be provided to each contractor.

Thus, based on the above, independent claims 1 and 8 each includes the step of "transferring said received packet to said mobile packet communication network by said gateway, using the address of the mobile terminal having been registered in said management table as a new destination address of said received packet."

Further, based on the above, independent claim 10 includes the element "packet transferring means for specifying, when a packet including service information is received from said server, the address of said mobile terminal to which the service with said received packet is to be provided, based on said management table and transferring said received packet to said mobile packet communication network by using the address as a new destination address of the received packet."

The above described features of the present invention now more clearly recited in the claims are not taught or suggested by any of the references of record whether taken individually or in combination with each other. Particularly, the above described features of the present invention as now more clearly recited in the claims are not taught or suggested by Ramasubramani or Ryu whether said references are taken individually or in combination with each other as suggested by the Examiner.

Ramasubramani proposes a multi-network gateway connectable to a plurality of different type of wireless carrier networks and to the internet. As alleged by the Examiner, Ramasubramani discloses that the mobile device issues the request to the server via the gateway apparatus.

However, contrary to the teachings of Ramasubramani, the present invention proposes to allow the gateway apparatus to generate the service

request on behalf of the mobile terminal when the mobile terminal has not yet sent the service request. In Ramasubramani, the gateway carries out forwarding (receiving and transmitting) of service requests sent from mobile devices. Accordingly, Ramasubramani fails to teach or suggest that the gateway apparatus can generate the service request on behalf of the mobile terminal when the mobile terminal has not sent the service request as in the present invention.

As such, Ramasubramani fails to teach the features of the present invention as recited in the claims and the idea of automatic issuing a service request for service from the Internet, in place of a wireless communication device, by a gateway for connecting a mobile packet communication network (wireless carrier network) and the Internet, when the wireless communication device is connected to the mobile packet communication network.

Thus, Ramasubramani fails to teach or suggest making a request to set management information on the mobile terminal from said service management node to said gateway apparatus in an execution process of a procedure for connecting the mobile terminal to said mobile packet communication network and registering management information including an address of the terminal and a service identifier of service to be provided to the mobile terminal into a management table by said gateway apparatus in response to reception of said request as recited in the claims.

Further, Ramasubramani fails to teach or suggest checking whether a service request has been sent to said server with respect to the service corresponding to the service identifier by said gateway apparatus and generating, by said gateway apparatus, the service request and sending the

service request to the server to start the service when it has been determined that the service request has not been sent from the gateway apparatus to said server as recited in the claims.

Still further, Ramasubramani fails to teach or suggest receiving a packet including service information from said server by said gateway apparatus and transferring said received packet to said mobile packet communication network by said gateway, using the address of the mobile terminal having been registered in said management table as a new destination address of the received packet as recited in the claims.

Therefore, Ramasubramani fails to teach or suggest the features of the present invention as now more clearly recited in the claims, and as such does not render obvious the claimed invention. Combining the teachings of Ramasubramani with any of the other references of record, particularly Ryu, in the manner suggested by the Examiner in the Office Action does not render obvious the claimed invention.

The above described deficiencies of Ramasubramani are not supplied by any of the other references of record. Particularly, the above described deficiencies of Ramasubramani are not supplied by Ryu.

Ryu intends to provide quick Internet service for the latest web contents from a special gateway even when a mobile terminal supporting no WAP (wireless application protocol) standard requests web information, and Ryu describes about the internal configuration of the gateway in col. 5, line 15-65 by referring to Fig.4. All components 41-45 shown in Fig. 4 are parts of the gateway itself and none of them corresponds to the "service management node" of the present invention.

Thus, Ryu is directed to a method of providing wireless internet service in a gateway system that stores and manages the latest URL web contents in a URL memory using a time to live (TTL) expired time and last modification time of the URL web contents to provide quick internet service for the latest web contents when a mobile terminal supporting no WAP standard request information.

At no point is there any teaching or suggestion in Ryu that a specific process is performed so as to determine whether a service request has been sent from the mobile terminal to the server with respect to the service corresponding to the service identifier and that if such a request has not been sent, then the gateway apparatus generates the service request and sends the service request to the server to start the desired service as in the present invention as recited in the claims.

Further, both Ramasubramiani and Ryu fail to teach or suggest a gateway having such a "management table" as defined in these claims. There is no disclosure in either references to suggest a gateway having the above described functions. Applicants submit that it is not easy for a person skilled in the art to construct a system and method the same as that of the present invention as recited in the claims from the teachings of Ramasubramiani in view of Ryu.

Thus, each of Ramasubramani and Ryu fails to teach or suggest making a request to set management information on the mobile terminal from said service management node to said gateway apparatus in an execution process of a procedure for connecting the mobile terminal to said mobile packet communication network and registering management information

including an address of the terminal and a service identifier of service to be provided to the mobile terminal into a management table by said gateway apparatus in response to reception of said request as recited in the claims.

Further, each of Ramasubramani and Ryu fails to teach or suggest checking whether a service request has been sent to said server with respect to the service corresponding to the service identifier by said gateway apparatus and generating, by said gateway apparatus, the service request and sending the service request to the server to start the service when it has been determined that the service request has not been sent from the gateway apparatus to said server as recited in the claims.

Still further, each of Ramasubramani and Ryu fails to teach or suggest receiving a packet including service information from said server by said gateway apparatus and transferring said received packet to said mobile packet communication network by said gateway, using the address of the mobile terminal having been registered in said management table as a new destination address of the received packet as recited in the claims.

Therefore, both Ramasubramani and Ryu fail to teach or suggest the features of the present invention as now more clearly recited in the claims, and as such combining Ramasubramani and Ryu in the manner suggested by the Examiner in the Office Action does not render obvious the claimed invention. Accordingly, reconsideration and withdrawal of the 35 USC §103(a) rejection of claims 1, 2 and 4-13 as being unpatentable over Ramasubramani in view of Ryu is respectfully requested.

The remaining references of record have been studied. Applicants submit that they do not supply any of the deficiencies noted above with respect to the reference utilized in the rejection of claims 1, 2 and 4-13.

In view of the foregoing amendments and remarks, applicants submit that claims 1, 2 and 4-13 are in condition for allowance. Accordingly, early allowance of claims 1, 2 and 4-13 is respectfully requested.

To the extent necessary, the applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the deposit account of MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C., Deposit Account No. 50-1417 (520.39903X00).

Respectfully submitted,

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